

Application No. 10/517,987
Amendment date: July-8-2009
Reply to OA of Feb-09-2008

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Amendments to the Claims:

1. to 18. (Cancelled)

19. to 25 (Cancelled)

26. (Currently amended) A process of preparing a canola protein isolate of improved colour from canola oil seed meal, which comprises the sequential steps of:

(a) extracting the canola oil seed meal to cause solubilization of ~~the protein~~ canola protein in the canola oil seed meal to form an aqueous canola protein solution having a pH about 5 to about 6.8,

(b) separating the canola aqueous protein solution from residual oil seed meal,

(c) increasing the ~~protein~~ concentration of said canola protein in said aqueous canola protein solution while maintaining the ionic strength of the aqueous canola protein solution substantially constant by effecting ultrafiltration of the aqueous canola protein solution to provide a concentrated canola protein solution,

(d) subjecting the concentrated canola protein solution to diafiltration using about 2 to about 20 volumes of diafiltration solution, until no significant further quantities of phenolics and colour are present in ~~[[the]]~~ permeate,

(e) diluting the diafiltered protein solution into chilled water having a temperature below ~~[[about]]~~ 15°C to form ~~to cause the formation of~~ discrete canola protein micelles in the chilled water ~~aqueous phase~~,

(f) settling the canola protein micelles to form an amorphous, sticky, gelatinous, gluten-like canola protein micellar mass, and

(g) recovering the canola protein micellar mass from supernatant, the canola protein micellar mass having a protein content of at least about 90 wt% (N x 6.25) on a dry weight basis.

27. (Cancelled)

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28. (Previously presented) The process of claim 26 wherein said diafiltration is effected using about 5 to about 10 volumes of diafiltration solution.

29. (Currently amended) The process of claim 26 wherein said extraction step is effected using an aqueous salt solution having a pH ~~in the range~~ of about 5 to about 6.8 and said diafiltration solution is an aqueous salt solution having the same concentration and pH as the solution used in said extraction step.

30. (Currently amended) The process of claim 26 wherein said diafiltration is effected using a membrane having a molecular weight cut-off ~~in the range~~ of about 3000 to about 50,000 daltons.

31. (Original) The process of claim 30 wherein said membrane has a molecular weight cut-off of about 5000 to about 10,000 daltons.

32. (Previously presented) The process of claim 26 wherein said diafiltration solution contains an antioxidant for at least a portion of said diafiltration step.

33. (Original) The process of claim 32 wherein said antioxidant is sodium sulfite or ascorbic acid.

34. (Original) The process of claim 33 wherein said antioxidant is used in an amount of about 0.01 to about 1 wt%.

35. (Original) The process of claim 26 wherein said extraction step is effected using an aqueous salt solution having a pH of about 5 to about 6.8 and containing an antioxidant.

36. (Original) The process of claim 26 wherein said canola oil seed meal is washed with an alcohol.

37. (Currently amended) The process of claim 26 wherein said canola protein micellar mass is dried and the dried canola protein isolate is extracted with an aqueous alcoholic solution.

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38. (Original) The process of claim 36 wherein said supernatant is concentrated by effecting ultrafiltration of the supernatant to provide a concentrated supernatant and the concentrated supernatant is subjected to diafiltration.

39. (Original) The process of claim 38 wherein said diafiltration is effected using about 2 to about 20 volumes of diafiltration solution.

40. (Original) The process of claim 39 wherein said diafiltration is effected using about 5 to about 10 volumes of water.

41. (Currently amended) The process of claim 39 wherein said diafiltration is effected using a membrane having a molecular weight cut-off ~~in the range of~~ about 3000 to about 50,000 daltons.

42. (Original) The process of claim 39 wherein said membrane has a molecular weight of about 5000 to about 10,000 daltons.

43. (Original) The process of claim 39 wherein said diafiltration solution contains an antioxidant for at least a portion of said diafiltration step.

44. (Original) The process of claim 43 wherein said antioxidant is sodium sulfite or ascorbic acid.

45. (Original) The process of claim 44 wherein said antioxidant is used in an amount of about 0.01 to about 1 wt%.

46. (Original) The process of claim 26 wherein said diafiltered protein solution is contacted with a colour-adsorbing agent prior to said diluting step.

47. (Original) The process of claim 46 wherein said colour-adsorbing agent is polyvinylpyrrolidone.

48. (Original) The process of claim 47 wherein said polyvinylpyrrolidone is used in an amount of about 0.5 to about 6 wt%.

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49. (Original) The process of claim 48 wherein said polyvinylpyrrolidone is used in an amount of about 2 to about 3 wt%.

50. (Currently amended) The process of claim 26 wherein the canola oil seed meal is prepared by inactivating myrosinases in canola oil seeds to form treated oil seeds and recovering canola oil from the treated oil seeds to form the canola oil seed meal.

51. (Currently amended) The process of claim 40 wherein the canola oil seed meal is air-desolventized at a temperature below ~~[[about]]~~ 50°C to remove residual oil extraction solvent.

52. (Currently amended) The process of claim 50 wherein the canola oil seed meal is desolventized at an elevated temperature below ~~[[bout]]~~ 100°C to remove residual oil extraction solvent.

53. (Original) The process of claim 26 wherein said diafiltered protein solution is subjected to a pasteurization step prior to said diluting step.

54. (Original) The process of claim 53 wherein said pasteurization step is effected by heating the diafiltered protein solution at a temperature of about 55° to about 70°C for about 10 to about 15 minutes.

55. to 64. (Cancelled)